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An 862 for

STEM RUST CONTROL

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U. S. Department of Agriculture



BARBERRY

ERADICATION

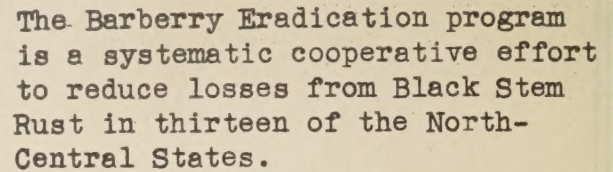
AND

STEM RUST

- * What is it?
- * What will it accomplish?
- * Why do it now?
- * How can individuals help?

United States Department of Agriculture
Bureau of Entomology and Plant Quarantine

• WHAT IT IS ~ ~ ~ •



A map of the study area, divided into a 3x3 grid of sections. A large circle, representing a 1-mile radius, is centered in the middle section. The map shows the distribution of barberry bushes (indicated by cross-hatched patterns) and various agricultural fields (labeled with crop names). The sections are numbered 1 through 7. Section 1 is the top-middle section, section 2 is the top-left, and section 6 is the top-right. Section 7 is the middle-right section. Section 11 is the middle-left section, and section 12 is the middle-middle section. The map shows a large area of barberry bushes in the top-left section (2) and a smaller area in the middle-middle section (12). A road or path is shown running vertically through the center of the map, passing through sections 2, 12, and the bottom-middle section. A scale bar at the bottom indicates a distance of 1 mile.

Spring



Barberry Bush

Cluster Cup Stage of Rust on Barberry Leaf

Winter



Black Stage on Straw, Stubble and Wild Grasses

The Life Cycle of Black Stem Rust
The World's Most Destructive Disease of Wheat, Oats, Barley and Rye

Summer



Red Stage of Rust on Growing Grain. Repeats Every Ten Days

Harvest Time



Black and Red Stages of Rust on Mature Grain

• WHAT IT WILL ACCOMPLISH •

*

Removing barberry bushes breaks the rust cycle, thus preventing the disease from transferring in the spring from the old straw and stubble to the new grain crops.

*

There are many varieties and strains of the stem rust fungus. Two of these may cross on the leaf of the barberry bush, producing one or more entirely new strains which may attack varieties of grain that heretofore have proven resistant to the disease. Thus the barberry is not only a source of early spring rust infection but may be responsible for the appearance of new and more destructive strains of the disease. Stem rust attacks wheat, oats, barley, and rye.

NEW STRAINS OF STEM RUST DEVELOP ON BARBERRY

MORE THAN A HUNDRED PARASITIC STRAINS OF WHEAT STEM RUST ALONE ARE KNOWN
EACH STRAIN CAN ATTACK SOME WHEAT VARIETIES BUT NOT OTHERS



MANY STRAINS
CANNOT ATTACK
KANRED

- BUT -



DIFFERENT STRAINS
MAY CROSS ON
BARBERRY
AND PRODUCE
ENTIRELY
NEW STRAINS

- AND -



THE NEW STRAINS
MAY ATTACK
KANRED HEAVILY

Barberry eradication will help to lower the cost of producing grain by increasing yields per acre and stabilizing the quality of the harvested product. Rust damage always takes place after the major cost of production has been incurred.

PROFIT



Plump, healthy wheat

OR

30 BUSHELS
to the
ACRE

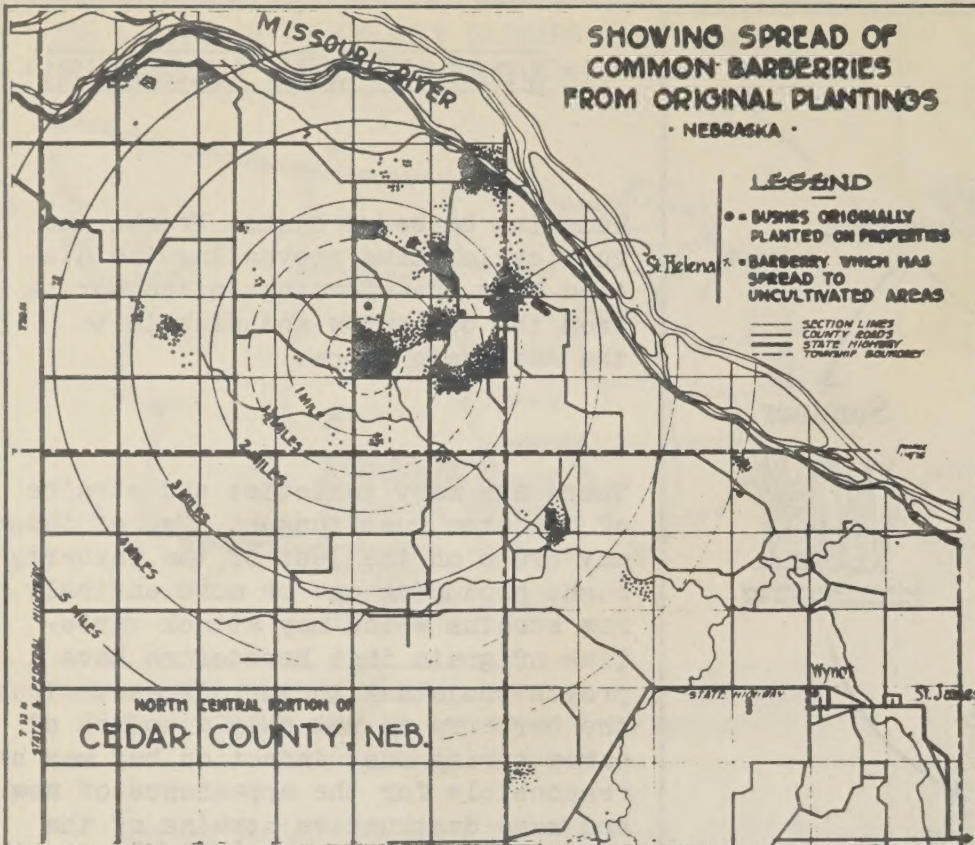
10 BUSHELS
to the
ACRE

Regardless of Price
WHICH IS BETTER FARMING ?

LOSS



Rust Shrivelled wheat



DO IT NOW

*

To eradicate the first small patch of weeds that appears is much easier and cheaper than to attempt to control after an entire field has become infested.

*

The same principle applies in connection with the barberry eradication program. Since 1918, 144,000 rust-spreading barberry bushes have been destroyed in Nebraska. The barberry population in this State is now at the lowest in many years.

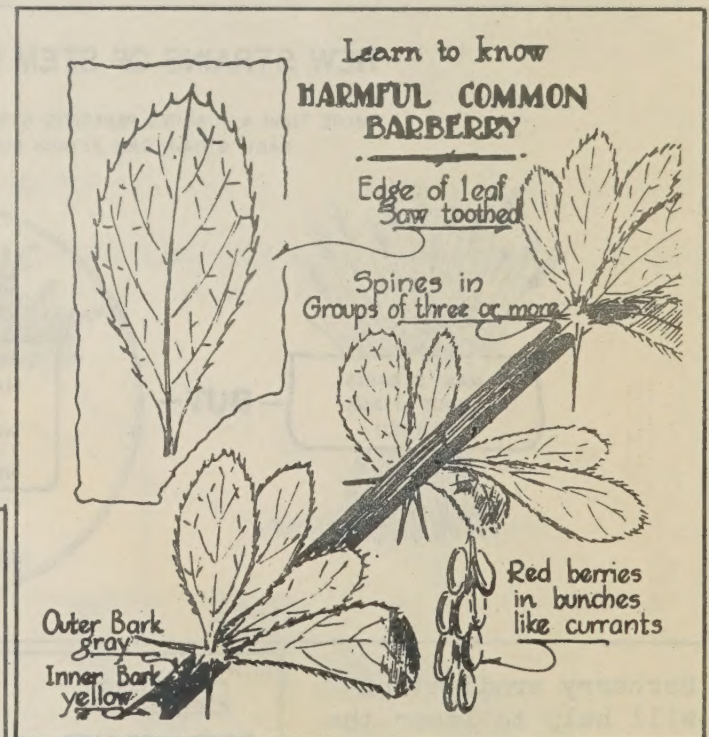
The eradication of the remaining scattered bushes is essential to (1) further re-

duce local early spring sources of stem rust spores and (2) prevent reinfestation of localities where eradication has been largely accomplished.

*

A few bushes originally planted in Cedar County for ornamental purposes produced seed that was scattered over a large area, as indicated in the above map. Barberry seed may remain dormant for several years before germinating. Therefore, to completely eliminate these bushes from Cedar County will require frequent reinspections of the infested area and the continued cooperation of property owners in eradicating new bushes that appear.

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Every harmful barberry bush that is destroyed means one less source from which early destructive stem rust epidemics may develop.

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